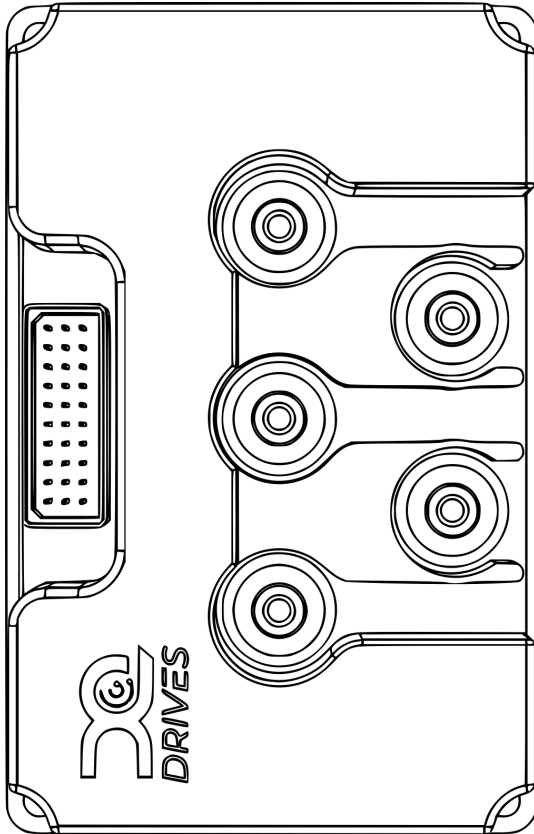


# M-Rugged 88V

Product Info Sheet  
V7 · 2026-06-04  
DQ Drives



## Key Facts:

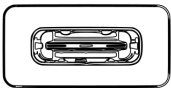
<b>Connectors:</b>	<b>USB-C, JST-JWPF, QS-Motors Hall, M6 Screw Terminals</b>
<b>Dimensions [mm]:</b>	<b>189 × 121.5 × 60.5</b>
Reference values. For systems integration, please download the 3D model.	
<b>Mounting Holes:</b>	<b>4 × 7.2mm</b>
<b>Weight [g]:</b>	<b>1800.0</b>
<b>Firmware:</b>	<b>VESC® 6.06</b>
<b>Supported Sensors:</b>	<b>Hall</b>
<b>Logic output voltage [V]:</b>	<b>4.5</b>
<b>Logic supply current [A]:</b>	<b>0.2</b>
<b>Minimum input voltage [V]:</b>	<b>30.0</b>
<b>Maximum input voltage [V]:</b>	<b>88.2</b>
<b>Maximum battery current [A]*:</b>	<b>200.0</b>
<b>Maximum motor current [A]*:</b>	<b>450.0</b>
<b>Maximum duty cycle [%]:</b>	<b>95.0</b>
<b>Current sensor type:</b>	<b>Phase Hall</b>

\*maximum currents are highly dependent on the cooling solution

And most importantly:  
Have fun and enjoy the product!

## Pinout:

### USB-C



### Throttle



GND ADC1 4V5

### Brake



GND ADC2 4V5

### Supply Switch



NC B+ Supply NC

### External Power



Supply NC NC GND

### 2 × CAN

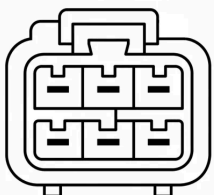


CAN L

CAN H

(All above JST-JWPF)

### Hall (DJ7061Y-2.3-11/21)



GND Temp 9V

Hall1 Hall2 Hall3

## Warnings:

- The device must be operated within its specified limits; exceeding ratings even temporarily may result in failure or hazardous conditions.
- Do not modify the device or enclosure under any circumstance.
- Opening the device voids all warranty and may interfere with its functionality.
- This product is not certified for use in safety-critical or human-carrying systems unless explicitly stated by the manufacturer.
- The user is solely responsible for ensuring compliance with all applicable laws, regulations, and certification requirements.
- The manufacturer and seller are not liable for any damage, injury, or loss resulting from improper use, installation, or operation.
- In no event shall the manufacturer or seller be liable for indirect, incidental, or consequential damages.
- The manufacturer assumes no responsibility for system-level failures, including but not limited to loss of propulsion, control, or power.
- Redundant safety systems are strongly recommended for any flight application.

## Installation:

- Always install an appropriately sized DC supply fuse near the controller.
- Installation must be carried out by qualified personnel experienced with high-voltage systems and VESC-based motor controllers.
- Read and understand all instructions and safety notes before starting.
- Prepare all required tools and materials, including wiring, connectors, insulation, and protective equipment before installing.
- Ensure the battery and motor system are properly arranged, with correct wiring paths and secure mounting.
- Make sure to not exceed the maximum torque of 1.5Nm on all screw terminals.
- Mount the device securely (using threadlock) in a location protected from vibration, moisture, dust, and heat.
- Do not install in areas exposed to water, condensation, or flammable materials.
- Install motor temperature sensors as required to enable thermal protection and controlled current reduction.
- Check polarity on all connections; incorrect wiring can cause permanent damage. Verify against the wiring diagram.
- Insulate all exposed terminals and wires to prevent short circuits or electric shock.
- Keep all metal objects and tools away from power terminals during installation.
- Secure and route cables properly to prevent movement and wear.
- Recheck all wiring and connections before applying power.
- Never connect the controller directly to a voltage source (like a battery) without a precharging mechanism.